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NEWS 6 JAN 22 CA/CAplus updated with revised CAS roles
NEWS 7 JAN 22 CA/CAplus enhanced with patent applications from India
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NEWS 22 MAR 30 RDISCLOSURE reloaded with enhancements
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NEWS 25 APR 30 CHEMCATS enhanced with 1.2 million new records
NEWS 26 APR 30 CA/CAplus enhanced with 1870-1889 U.S. patent records
NEWS 27 APR 30 INPADOC replaced by INPADOCDB on STN
NEWS 28 MAY 01 New CAS web site launched
NEWS 29 MAY 08 CA/CAplus Indian patent publication number format defined
NEWS 30 MAY 14 RDISCLOSURE on STN Easy enhanced with new search and display fields
NEWS 31 MAY 21 BIOSIS reloaded and enhanced with archival data
NEWS 32 MAY 21 TOXCENTER enhanced with BIOSIS reload
NEWS 33 MAY 21 CA/CAplus enhanced with additional kind codes for German patents
NEWS 34 MAY 22 CA/CAplus enhanced with IPC reclassification in Japanese patents

NEWS EXPRESS NOVEMBER 10 CURRENT WINDOWS VERSION IS V8.01c, CURRENT MACINTOSH VERSION IS V6.0c(ENG) AND V6.0Jc(JP), AND CURRENT DISCOVER FILE IS DATED 25 SEPTEMBER 2006.

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NEWS IPC8 For general information regarding STN implementation of IPC 8

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2006275864	A	20061012	JP 2005-97302	20050330
PRIORITY APPLN. INFO.:			JP 2005-97302	20050330

AB An electrode is used for the measurement of a target substance in a sample solution whose surface is immobilized with a substrate reactable with specific locations of the target substance on the electrode surface. Substrates having specific reaction different from the previous substrate are immobilized on the surface of mass sensitizing micro particles and a cross linking reagent is added. The method is able to improve the amplitude of the sensor frequency variation due to the adsorption of the target substance of low concentration or small mol. weight

L4 ANSWER 2 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:838370 CAPLUS
 DOCUMENT NUMBER: 145:246828
 TITLE: Piezoelectric immunosensors: analytical potentials and outlooks
 AUTHOR(S): Ermolaeva, T. N.; Kalmykova, E. N.
 CORPORATE SOURCE: Lipetsk State Technical University, Lipetsk, 398060, Russia
 SOURCE: Russian Chemical Reviews (2006), 75(5), 397-409
 CODEN: RCRVAB; ISSN: 0036-021X
 PUBLISHER: Turpion Ltd.
 DOCUMENT TYPE: Journal; General Review
 LANGUAGE: English
 AB A review. The state-of-the-art in the design of piezoelec. immunosensors is analyzed. The anal. conditions, types of immunochem. reactions detected by piezogravimetric sensors and methods for immobilization of bioreceptor mols. on the electrode surface of piezoelec. resonators are considered. Special attention is given to the use of immunosensors for the detection of microorganisms and low- and high-mol.-mass compds. in liquid media. The bibliog. includes 172 refs.
 REFERENCE COUNT: 175 THERE ARE 175 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
 ACCESSION NUMBER: 2006:647894 CAPLUS
 DOCUMENT NUMBER: 145:194910
 TITLE: Using a piezoelectric flow immunosensor for determining sulfamethoxazole in environmental samples
 AUTHOR(S): Melikhova, E. V.; Kalmykova, E. N.; Eremin, S. A.; Ermolaeva, T. N.
 CORPORATE SOURCE: Lipetsk State Technical University, Lipetsk, 398600, Russia
 SOURCE: Journal of Analytical Chemistry (2006), 61(7), 687-693
 CODEN: JACTE2; ISSN: 1061-9348
 PUBLISHER: Pleiades Publishing, Inc.
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 AB A mass-sensitive piezoelec. flow immunosensor to determine sulfo preps. in liquid media is proposed. This sensor is equipped with a piezoelec. quartz resonator with Ag electrodes on the silanized surface of which sulfamethoxazole-protein conjugates were immobilized. Antibody binding consts. with conjugate sulfamethoxazole were determined; the most active complementary pairs were chosen. Selectivity of determining sulfamethoxazole in the presence of its structural analogs was evaluated based on cross-reaction percentages. A procedure for flow-injection determination of sulfamethoxazole was developed using

the piezoelec. immunosensor as a detector; the detection limit of sulfamethoxazole was 0.15 ng/mL. The procedure was tested by determining sulfamethoxazole in soil and natural water.

REFERENCE COUNT: 17 THERE ARE 17 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 4 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1998:661439 CAPLUS
DOCUMENT NUMBER: 129:341418
TITLE: Biosensor.
INVENTOR(S): Tajima, Ichiro; Asami, Osamu
PATENT ASSIGNEE(S): Toyota Central Research and Development Laboratories, Inc., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 4 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 10274654	A	19981013	JP 1997-94805	19970328
PRIORITY APPLN. INFO.:			JP 1997-94805	19970328

AB The production of new biosensor is described. The system consists of the quartz crystal piezoelec. oscillator, the gold electrode formed on the surface of the crystal, and the functional membrane formed on the surface of electrode, which is bound with antigen or antibody. The electrode is made of at least one of metals, selected from platinum, gold and silver. Antigen or antibody is bound to the functional membrane with covalent bond via organic compound. The immunosensor thus developed is easily prepared and handled, generating the reliable data when applied to the quant. anal. of antibody or antigen.

L4 ANSWER 5 OF 12 CAPLUS COPYRIGHT 2007 ACS on STN
ACCESSION NUMBER: 1986:164644 CAPLUS
DOCUMENT NUMBER: 104:164644
TITLE: Liquid-phase piezoelectric and acoustic transmission studies of interfacial immunochemistry
AUTHOR(S): Thompson, Michael; Arthur, Catherine L.; Dhaliwal, Gurbaksh K.
CORPORATE SOURCE: Dep. Chem., Univ. Toronto, Toronto, ON, M5S 1A1, Can.
SOURCE: Analytical Chemistry (1986), 58(6), 1206-9
CODEN: ANCHAM; ISSN: 0003-2700
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A wide-band marginal oscillator designed to function with mech. damped quartz crystals was used to examine the response of devices with 1 face exposed to stationary and flowing water. The frequency was stable to ± 2 Hz. Monolayer (hydrophobic) and bilayer (hydrophilic) films of stearic acid deposited by Langmuir-Blodgett technol. were used to study the effect of interfacial chemical on shear-wave propagation. Frequency values for the reaction of human IgG and IgA with goat antihuman IgG immobilized to thin films of polyacrylamide gel and directly to the crystal/electrode surface were recorded. The significance of mediation of frequency response by interfacial interactions is discussed.

L4 ANSWER 6 OF 12 COMPENDEX COPYRIGHT 2007 EEI on STN
ACCESSION NUMBER: 2006(28):2924 COMPENDEX
TITLE: Using a piezoelectric flow immunosensor for determining sulfamethoxazole in environmental samples.
AUTHOR: Melikhova, E.V. (Lipetsk State Technical University, Lipetsk, 398600, Russian Federation); Kalmykova, E.N.;

SOURCE: Eremin, S.A.; Ermolaeva, T.N.
Journal of Analytical Chemistry v 61 n 7 July 2006
2006.p 687-693

SOURCE: Journal of Analytical Chemistry v 61 n 7 July 2006
2006.p 687-693

PUBLICATION YEAR: 2006

DOCUMENT TYPE: Journal

TREATMENT CODE: Theoretical

LANGUAGE: English

AN 2006(28):2924 COMPENDEX

AB A mass-sensitive piezoelectric flow immunosensor for determining sulfo preparations in liquid media was proposed. This sensor included a piezoelectric quartz resonator with silver electrodes on the silanized surface of which sulfamethoxazole-protein conjugates were immobilized. The binding constants of antibodies with the conjugate sulfamethoxazole were determined, and the most active complementary pairs were chosen. The selectivity of determining sulfamethoxazole in the presence of its structural analogues was evaluated based on the cross reaction percentages. A procedure for the flow-injection determination of sulfamethoxazole was developed using the piezoelectric immunosensor as a detector; the detection limit of sulfamethoxazole was 0.15 ng/mL. The procedure was tested in determining sulfamethoxazole in soil and natural water. \$CPY Pleiades Publishing, Inc., 2006. 17 Refs.

L4 ANSWER 7 OF 12 COMPENDEX COPYRIGHT 2007 EEI on STN

ACCESSION NUMBER: 1980(12):1173 COMPENDEX

DOCUMENT NUMBER: 801293434

TITLE: TEMPERATURE DEPENDENCE OF THE RESONANT FREQUENCY OF ELECTRODED DOUBLY-ROTATED QUARTZ THICKNESS-MODE RESONATORS.

AUTHOR: Tiersten, H.F. (Rensselaer Polytech Inst, Troy, NY); Sinha, B.K.

SOURCE: J Appl Phys v 50 n 12 Dec 1979 p 8038-8051

SOURCE: J Appl Phys v 50 n 12 Dec 1979 p 8038-8051

CODEN: JAPIAU ISSN: 0021-8979

PUBLICATION YEAR: 1979

LANGUAGE: English

AN 1980(12):1173 COMPENDEX DN 801293434

AB A system of approximate equations for the determination of thermal stresses in piezoelectric plates with large thin films of a different material plated on the surfaces is obtained. Conditions resulting in both extensional and flexural stresses are considered and the full anisotropy of the quartz is included in the treatment. The particular case of purely extensional thermal stresses resulting from large electrodes of equal thickness plated on the major surfaces of doubly-rotated quartz thickness-mode resonators is examined in detail. The changes in resonant frequency resulting from the thermally induced biasing stresses and strains are determined from an existing perturbation equation. Calculations, using the newly defined first temperature derivatives of the fundamental elastic constants of quartz, are performed for large gold electrodes on doubly-rotated quartz plates. 25 refs.

L4 ANSWER 8 OF 12 INSPEC (C) 2007 IET on STN

ACCESSION NUMBER: 2000:6622791 INSPEC

DOCUMENT NUMBER: A2000-14-8780B-013; B2000-07-7230J-015

TITLE: Latex piezoelectric immunoassay: it's application for clinical and environmental analysis

AUTHOR: Kurosawa, S.; (Nat. Inst. for Adv. Interdisciplinary Res., Tsukuba, Japan), Muratsugu, M.; Nakamura, C.; Aizawa, H.; Minoura, N.; Miyake, J.; Yoshimoto, M.; Kamo, N.

SOURCE: Proceedings of the 1999 Joint Meeting of the European Frequency and Time Forum and the IEEE International Frequency Control Symposium (Cat. No.99CH36313), vol.2, 1999, p. 1005-8 vol.2 of 2 vol. xxx+1219 pp., 7 refs.
ISBN: 0 7803 5400 1
Price: 0 7803 5400 1/99/\$10.00
Published by: IEEE, Piscataway, NJ, USA
Conference: Proceedings of the 1999 Joint Meeting of the European Frequency and Time Forum and the IEEE International Frequency Control Symposium, Besancon, France, 13-16 April 1999
Sponsor(s): IEEE Ultrasonics, Ferroelectr. & Frequency Control Soc.; Region de Franche-Conte; Conseil Gen. Doubs; Ville de Besancon; Bureau Nat. Metrologie (BNM, Paris); Services de l'Etat (Prefecture, DRIRE)
Conference; Conference Article

DOCUMENT TYPE: Application; Experimental
TREATMENT CODE: Conference Article
COUNTRY: United States
LANGUAGE: English

AN 2000:6622791 INSPEC DN A2000-14-8780B-013; B2000-07-7230J-015
AB Latex piezoelectric immunoassay (LPEIA) is a new immunoassay method that requires no immobilization of antigen or antibody on the electrode surface of quartz crystal, in contrast to previous immunoassays in which a piezoelectric crystal is used as a microbalance and immobilization is essential. The frequency change was observed during the aggregation of antibody- or antigen-coated latex particles. This method was used for the detection and is sufficiently sensitive for clinical applications. We made a prototype LPEIA sensor for remote sensing and diagnosis to care for a handicapped person in their home

L4 ANSWER 9 OF 12 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1999:6218644 INSPEC
DOCUMENT NUMBER: A1999-10-8780B-018; B1999-05-7230J-022
TITLE: Thiolated *Salmonella* antibody immobilization onto the gold surface of piezoelectric quartz crystal
AUTHOR: In-Seon Park; Namsoo Kim (Korea Food Res. Inst., Kyungki, South Korea)
SOURCE: Biosensors & Bioelectronics (1 Nov. 1998), vol.13, no.10, p. 1091-7, 16 refs.
CODEN: BBIOE4, ISSN: 0956-5663
SICI: 0956-5663(19981101)13:10L.1091:TSAI;1-N
Price: 0956-5663/98/\$19.00
Doc.No.: S0956-5663(98)00067-0
Published by: Elsevier, UK

DOCUMENT TYPE: Journal
TREATMENT CODE: Experimental
COUNTRY: United Kingdom
LANGUAGE: English

AN 1999:6218644 INSPEC DN A1999-10-8780B-018; B1999-05-7230J-022
AB An improved antibody-coated sensor system based on quartz crystal microbalance analysis on *Salmonella* spp. was developed making use of thiolated antibody immobilization onto one gold electrode of the piezoelectric quartz crystal surface. The best results in sensitivity and stability were obtained with the thin layer of a thiol-cleavable, heterobifunctional cross-linker, sulfosuccinimidyl 6-[3-(2-pyridyldithio)propionamido]hexanoate (sulfo-LC-SPDP). The long bridge of this reagent could function as a spacer, facilitating antibody-Salmonella interaction on the gold electrode. After the addition of a *S. typhimurium* suspension into a reaction cell with 0.1 M sodium phosphate buffer, pH 7.2, the resonant frequency decreased conspicuously. The time required for maximum frequency shift was about 30-90 min. Sensor response was observed for the

microbial suspensions ranging from 9.9+105 to 1.8+ 108 CFU/ml

L4 ANSWER 10 OF 12 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1996:5455957 INSPEC
DOCUMENT NUMBER: A1997-03-8780B-004; B1997-02-7510-006
TITLE: A specific microgravimetric immunobiosensor for monitoring insulin concentration
AUTHOR: Suri, C.R.; Mishra, G.C. (Inst. of Microbial Technol., Chandigarh, India)
SOURCE: Proceedings of the First Regional Conference, IEEE Engineering in Medicine and Biology Society and 14th Conference of the Biomedical Engineering Society of India. An International Meet (Cat. No.95TH8089), 1995, p. 4/96-8 of xviii+532 pp., 7 refs.
ISBN: 0 7803 2711 X
Published by: IEEE, New York, NY, USA
Conference: Proceedings of the First Regional Conference, IEEE Engineering in Medicine and Biology Society and 14th Conference of the Biomedical Engineering Society of India. An International Meet, New Delhi, India, 15-18 Feb. 1995
DOCUMENT TYPE: Conference; Conference Article
TREATMENT CODE: Practical; Experimental
COUNTRY: United States
LANGUAGE: English

AN 1996:5455957 INSPEC DN A1997-03-8780B-004; B1997-02-7510-006

AB We have developed a microgravimetric immunobiosensor for the determination of insulin concentration. The system consisted of a modified piezoelectric quartz crystal having bound to its electrode surface an antibody specific to insulin molecules. The antibody to insulin was covalently immobilized on the modified crystal surface via a direct protein A-gold immobilization method using dimethyl pimelimidate (DMP) as the cross linker. The antibody immobilized via the avidin-biotin immobilization method showed low sensitivity and poor stability of the immune biosensor system. Tests of the activity of the resulting immobilized antibody, uniformly oriented using the protein A-gold immobilization method, indicated that surface density close to the theoretical maximum (close packed) was achieved. A comparison between the present study and the well established radioimmunoassay (RIA) revealed that the described microgravimetric immunoassay technique could be developed as a potential alternate to RIA

L4 ANSWER 11 OF 12 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1994:4594225 INSPEC
DOCUMENT NUMBER: A1994-06-8780-012; B1994-03-7230J-008
TITLE: Piezoelectric crystal for the detection of immunoreactions in buffer solutions
AUTHOR: Geddes, N.J.; Paschinger, E.M.; Furlong, D.N.; (Div. of Chem. & Polymers, CSIRO, Clayton, Vic., Australia), Ebara, Y.; Okahata, Y.; Than, K.A.; Edgar, J.A.
SOURCE: Sensors and Actuators B (Chemical) (Jan. 1994), vol.B17, no.2, p. 125-31, 16 refs.
CODEN: SABCEB, ISSN: 0925-4005
Price: 0925-4005/94/\$07.00
DOCUMENT TYPE: Journal
TREATMENT CODE: Experimental
COUNTRY: Switzerland
LANGUAGE: English

AN 1994:4594225 INSPEC DN A1994-06-8780-012; B1994-03-7230J-008

AB The quartz-crystal microbalance (QCM) has been modified to allow for the monitoring of reactions in aqueous solution with about 10 ng sensitivity. This has been achieved by allowing only one electrode to be exposed to the solution of interest, the other being maintained in an air

environment. When the gold electrodes of the QCM are thiol/diimide activated, they can be used to monitor the surface immobilization of immunoglobulin (IgG) molecules and their subsequent interaction with anti-IgG. This is demonstrated by immobilization of sheep or mouse IgG onto the thiolated electrodes, with preference shown for binding with anti-sheep and anti-mouse IgGs, respectively, during subsequent solution interaction. Some cross-reactivity occurs

L4 ANSWER 12 OF 12 INSPEC (C) 2007 IET on STN
ACCESSION NUMBER: 1980:1511447 INSPEC
DOCUMENT NUMBER: A1980-050272; B1980-024131
TITLE: Temperature dependence of the resonant frequency of electroded doubly-rotated quartz thickness-mode resonators
AUTHOR: Tiersten, H.F.; Sinha, B.K. (Dept. of Mech. Engng., Aeronautical Engng. & Mech., Rensselaer Polytechnic Inst., Troy, NY, USA)
SOURCE: Journal of Applied Physics (Dec. 1979), vol.50, no.12, p. 8038-51, 32 refs.
CODEN: JAPIAU, ISSN: 0021-8979
DOCUMENT TYPE: Journal
TREATMENT CODE: Theoretical
COUNTRY: United States
LANGUAGE: English
AN 1980:1511447 INSPEC DN A1980-050272; B1980-024131
AB A system of approximate equations for the determination of thermal stresses in piezoelectric plates with large thin films of a different material plated on the surfaces is derived. The plate equations are obtained by making a suitable expansion of the pertinent variables in the thickness coordinate, inserting the expansion in the appropriate variational principle and integrating with respect to the thickness in the manner of Mindlin. Conditions resulting in both extensional and flexural stresses are considered and the full anisotropy of the quartz is included in the treatment. The particular case of purely extensional thermal stresses resulting from large electrodes of equal thickness plated on the major surfaces of doubly-rotated quartz thickness-mode resonators is treated in detail. The changes in resonant frequency resulting from the thermally induced biasing stresses and strains are determined from an existing perturbation equation. Calculations, using the newly defined first temperature derivatives of the fundamental elastic constants of quartz, are performed for large gold electrodes on doubly-rotated quartz plates

	Type	L #	Hits	Search Text	DBs
1	BRS	L1	9104	resonator same electrode	US- PGPUB; USPAT
2	BRS	L2	30004	(resonator or piezoelectric) same electrode	US- PGPUB; USPAT
3	BRS	L3	199	2 and functional\$9 with electrode near8 surface	US- PGPUB; USPAT
4	BRS	L4	1147	(resonator or piezoelectric) same electrode same protect\$9 near8 (coating or film or layer)	US- PGPUB; USPAT
5	BRS	L5	13	3 and (resonator or piezoelectric) same electrode same protect\$9 near8 (coating or film or layer)	US- PGPUB; USPAT